



Norman H. Bangerter
Governor
Kenneth L. Alkema
Executive Director
Don A. Ostler, P.E.
Director

State of Utah
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146
(801) 538-6016 Fax

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DIVISION OF
OIL GAS & MINING

DOG
MINERALS PROGRAM
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September 18, 1992

Mr. James A. Smith, Manager
Tenneco Minerals Company - Utah
P.O. Box 2650
St. George, UT 84770

RE: 2nd Quarter Monitoring Data, Ground
Water Monitoring Plan, Operating &
Decommissioning Procedures,
Emergency Response Materials,
Containment Procedures, Reclamation of
Clay Liners, Ground Water Permit
UGW530001

Dear Mr. Smith:

We received the 2nd quarter monitoring data dated July 10, 1992.

The report is satisfactory, and indicates no unusual amounts of solutions detected in the pad or pond sumps. The Division of Water Quality is in the process of storing water quality data on our computer and needs the latitude and longitude of the monitoring wells. We request Tenneco determine the latitude and the longitude of the wells and send this information with the next monitoring report.

We also received correspondence dated May 18, 1992 regarding reclamation of clay liners and three manuals on June 19, 1992 as required by the ground water permit. The manuals include procedures for (1) operating/maintenance and reclamation, (2) ground water monitoring and sampling, and (3) emergency response. The above reclamation plans and manuals will be acceptable when the following corrections and additions are made:

1. Your plan for reclamation of the barren pond clay liner is acceptable and should be included with the decommissioning procedures described in the operations/maintenance and reclamation manual for convenience and continuing reference.

2. Your removal of fill and the clay liner material affected by the October 16-17, 1990 pad seepage, and placing it on Pad No. 1 solves the reclamation issue.
3. Decommissioning procedures should include determination of the rebound potential of cyanide in the neutralized heap. This may require rest periods between neutralizing the pad followed by further testing of cyanide to assess cyanide level in the heap.
4. Please explain why the exposed HDPE liner should be ripped prior to grading the ponds. What do you plan to do with the exposed HDPE liner material around the edge of the pads? Please add to the manual.
5. After neutralization and before final decommissioning of the heap, residual leachate and free water drainage shall be analyzed for various water quality parameters. The weak acid dissociable (WAD) cyanide concentration shall not exceed 0.2 mg/l and the pH shall be between 6.5 and 8.5. An analysis shall be made for the metal parameters in the ground water standards shown in R317-6-2. If any contaminant concentrations exceed those parameters shown therein, then a pathway and fate analysis shall be undertaken to demonstrate that those contaminants will not damage the waters of the state or the environment.

Spent ore, which is to be moved off the pads for recontouring or other purposes, shall be tested for the production of leachate that may violate the ground water quality standards shown in R317-6-2. A minimum of one representative solids sample and a total of one sample per 1500 cubic yards of solid material to be moved off the pad shall be subjected to an appropriate potential leachate extraction procedure and analyzed for metals and cyanide as determined by the executive secretary.

6. The ground water monitoring and sampling plan will be satisfactory with an addition to page 3 that the analytical results include EPA method used and the detection limit as requested in our letter of 5-28-92. Ground water monitoring needs to continue after closure. The upgradient wells must be monitored every other year, and the downgradient wells must be monitored annually. Because the underlying aquifer consists of fractured rock and there have been several spills, we believe at least 10 years of post closure monitoring is justified. After 10 years of post closure monitoring, we will review the records and determine if further monitoring is needed. At the end of ten years a request should be made to the Division of Water Quality for this review. Please add this to the manual.

Mr. James A. Smith, Manager

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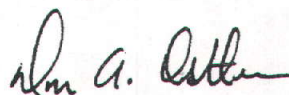
September 18, 1992

7. The manual for emergency response needs several corrections. References to the Bureau of Water Pollution Control on pages 4, 10, 13, & 15 should be changed to the Division of Water Quality. The ground water permit requires written notification of spills within 5 days, not 15 days as stated on page 11.

Please revise the manuals and resubmit them with the next quarterly report, October 15, 1992. We are returning one set of manuals as you requested. If you have questions, call Mack Croft or Lyle Stott at 538-6146.

Sincerely,

Utah Water Quality Board



Don A. Ostler, P.E.
Executive Secretary

Enclosure

DAO:MC:gt

cc: Div. Oil, Gas & Mining
JBR Consultants
Tim Provan
Wayne Thomas

P:TENMONT.LTR
FILE:TENNECO